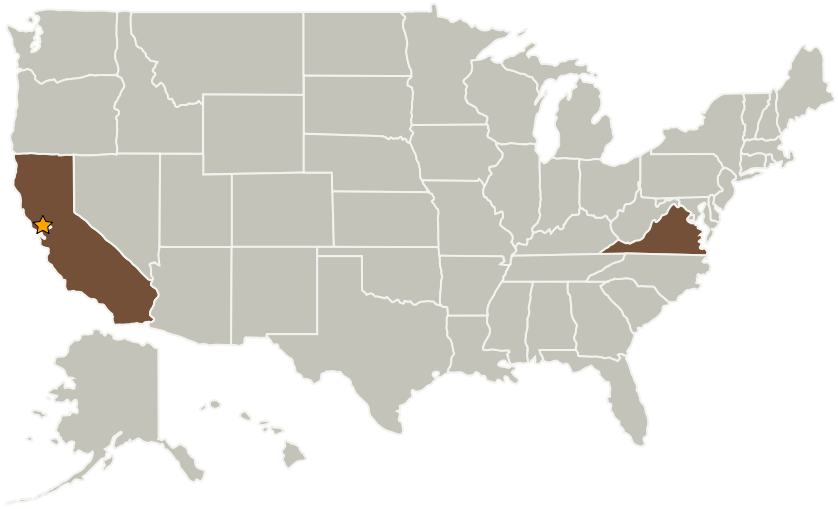
Airport Configuration Prediction, Phase I

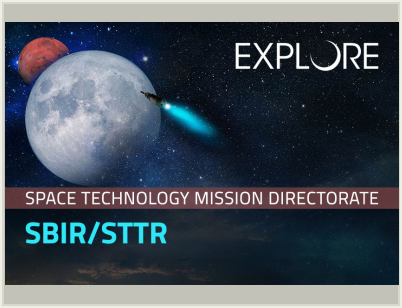
Completed Technology Project (2004 - 2004)

Project Introduction

There is presently poor knowledge throughout the National Airspace System (NAS) of the airport configurations currently in use at each airport. There is even less information about expected future configuration changes. The airport configuration is a primary factor in various airport characteristics such as arrival and departure capacities and terminal area traffic patterns. These characteristics, in turn, are central to a variety of Air Traffic Management (ATM) decisions, such as setting arrival restrictions to avoid airborne holding. Consequently, uncertainty about the current or future airport configuration can result in traffic management decisions that under-utilize or overload airports, resulting in unnecessary or inefficient delays. Moreover, air carriers would make use of configuration information. FedEx, for example, selects parking gates for arrivals to Memphis based on expected departure runways to minimize taxi congestion and time. The proposed effort will develop an airport configuration recognition and prediction system. The airport configuration depends on a variety of factors; Phase 1 will consider local weather, arrival and departure demand, noise restrictions, and airport-specific considerations.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Metron Aviation, Inc.	Supporting Organization	Industry	Dulles, Virginia

Primary U.S. Work Locations	
California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Stephen Atkins

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.3 Traffic Management Concepts